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**OBSERVATIONS**  
ON THE  
BEST MODE OF CURING  
**STRICTURES IN THE URETHRA;**  
WITH  
**REMARKS**  
ON THE FREQUENT INEFFECTACY, AND ILL EFFECTS,  
OF  
**CAUSTIC APPLICATIONS.**



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**BY WILLIAM WADD,**

MEMBER OF THE ROYAL COLLEGE OF SURGEONS, LONDON.

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“Many thousands of persons have not only been relieved, so as to pass their lives comfortably, but cured by the old method of using bougies,”

HOWARD.

“If the case is such as to admit the end of a small bougie to pass, let it be ever so small, the cure is then in our power.”

HUNTER.

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**SECOND EDITION, ENLARGED.**

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# PREFACE

TO THE SECOND EDITION.

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**W**HEN these observations were first offered to the public, my object was to contrast the various improvements in the application of caustic substances for the cure of strictures in the urethra, with the advantages and disadvantages of the common bougie. The reader, after learning the difficulties and dangers of one mode, and the extent of the relief to be expected from the other, was left to form his own opinion of the merits of each.

The prevailing practice of curing strictures by caustic, seemed carried to an extent, neither warranted by the great name\* which first revived it, nor by the experience of the profession at large, nor even on the fairest evidence of its most decided advocates:—Yet, according to the remark of a judicious physician, since dead, “It has been practised of late years with a degree of wantonness, that exceeds any thing in the history of the art, which seems occasionally to have as good a title to that of torturing as of healing.”

Many had written on strictures; each had a new remedy, or some improvement of a new remedy to propose, as if aware that—“Novelty is only in request, and it is dangerous to be aged in any kind of course.”

\* The late Mr. Hunter.



Without pretending to the mystery and importance of a new method, I ventured to offer a comparative view of the practice, and to contrast the opinions of some departed surgeons of eminence, with the high authority of modern doctrines. The indiscriminate use of caustic appeared to me a no less dangerous practice in these days, than the abuse of mercury in the cure of lues was formerly. We find the old surgeons recording the effects of salivation, with as much unconcern as the moderns do the “little miseries” of escarotics. — “Should the patient,” says one of them, “be brought into apparent danger, you are immediately to make all the *diversions* you possibly can; 1.—by sharp glysters; 2. brisk cathartics, when they can be swallowed, (*but when they cannot*)—3. bleeding under the tongue, and in the arm; cupping and scarifying the tops of the

shoulders ; 4.—large blisters on the back and behind the ears ; extending along the jugulars on each side of the neck ; 5. by throwing gargles into the throat with a syringe, &c.”—Thus a man might have been half flayed alive,—drenched with purges and glysters at the same time, with the chance of being choaked by gargles—to save himself from immediate death, and to extricate himself from what was considered an ordinary dilemma in the *mode of cure*. “*Leviuste est ægrotare, quam tali methodo sanari.*”

Let any man compare this account with the diaries of some patients who have had sufficient faith and fortitude, to endure the miseries of a six months siege, with the slow advances of an armed bougie, and then say, whether the amusing terms, of *safe* and *easy*, may not be as well applied

to the old surgery, as to our own. May we not fairly agree with an author, who says, that “ the play of Titus Andronicus, and the picture of Count Ugolino, are incapable of exciting stronger horror, than the relations of some of the patients thus treated, of what they have undergone in vain, or from the increase of symptoms.” \*

Having been always taught that no operation should be performed without the consent of the patient, what was my surprise to read in one author, “ There are some men so extremely irritable, as not to be able to surmount the dread excited by the proposed application of caustic, the very

\* The same author adds—“ If there existed a society for the circulation of tracts to promote prudence among young men, a few of these histories related without the least exaggeration, must, one would hope, have a good effect, by teaching them how much they will have to suffer from disease, and how much more from the surgeon.”

mention of which, never fails to excite immediate spasm in the urethra, thereby rendering more difficult the introduction of the instrument. In such cases," continues this gentleman, "the same apprehension not being felt for the common bougie, it may be of advantage to *deceive* the patient, and under this cover a loaded bougie may be passed with greater facility."\* Such was not the language of that illustrious character, whose extraordinary abilities might have admitted (if such a thing could be admitted) some deviation from this established maxim of our art.

When the practice was first published, we were told that it was introduced with a "connected body of evidence, established upon facts," and every opposition to so

\* Johnston on Diseases of Urinary Organs, p. 181.

bold an innovation was set to the score of prejudice.—How far subsequent experience has tended to remove, or confirm this prejudice, the following pages may assist the reader in deciding.

10. *Park Place, St. James's Street,*  
*Feb. 12, 1811.*





# OBSERVATIONS,

&c. &c. &c.

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“ **I**F a man would register all his opinions,” says Swift, “ upon love, politics, religion, and learning, what a bundle of inconsistencies and contradictions would appear at last !” Would the *contrarieties* in the practice of surgery, if assembled together, form a less curious “ bundle of inconsistencies ?”

The miseries endured by those who suffer from diseases of the urinary organs, especially such as arise from contractions of the urethra, are so frequent, that we might conclude there

could be no cases in surgery, in the treatment of which the profession would be more decidedly unanimous. Such is however far from the fact.

During the last century, the barbarous practice of former times---the caustics and cauteries of our forefathers, were banished, by common consent, from general use, and more particularly from diseases of the urethra.---“Callosities and Caruncles” were no longer sought after, and surgeons were contented with relieving obstructions of the urethra, by the simple, and, as it appeared, efficacious means of the bougie. This was the approved practice, when Mr. Hunter, whose life and writings form an important æra in surgery, revived the old method, by the introduction of the lunar caustic. He recommended it however in a very limited degree---applied it with great caution, and in those cases only, which were decidedly beyond the reach of common means. What he thus cautiously advised as

an experiment in extreme and difficult cases, has, since his time, been carried to an extent he could not have anticipated. Almost every stricture is indiscriminately attacked with caustic, as if the question *how* and *when* it should be used, were no longer an object of enquiry.

Many opportunities which had occurred, induced me two years ago, to offer my thoughts on the comparative effect of the simple and armed bougie. My decided opinion then was, that in most instances the common bougie is adequate to all the purposes of relief; that in more complicated cases the armed bougie is not only a precarious, but often a dangerous remedy. Since that period some old and some irremediable cases have been referred to me; among the rest, that callous stricture which sometimes occurs near the orifice of the urethra. In most of these, I have found that no impression on the diseased part has been made by the previous applications of caustic,

and in some even the sound parts have been materially injured. On the whole I am more than ever confirmed in opinion, that the caustic mode of cure, as it is confessedly attended with certain evils, ought at all times to be a question, for the patient, and the patient only, to decide, whether he will hazard the chance, at the risk of greater evils, and perhaps of life.

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The urethra is lined with a membrane in many respects resembling the membranous lining of other parts of the body, but differing, according to the generally received opinion, in its power of contraction and dilation. It is at the points, where the urethra is supposed to have the greatest degree of contraction, that strictures are most commonly found, viz. at four inches and a half, and at six and a half, from the external orifice. They are seldom found beyond this. Mr. Hunter says, he never

saw a stricture in that part of the urethra which passes through the prostate gland.\* Mr. Abernethy, however, has met with cases where all the symptoms remained, arising from a stricture at the neck of the bladder. My own observations would confirm Mr. Hunter's remark.

The worst cases that have come under my notice, have generally been strictures at four inches and a half. I have three cases at present, in each of which the caustic has been applied for upwards of five months, by different practitioners; and lately saw a case of this kind, in a gentleman who was going to the East Indies, with a callous stricture. A catgut bougie only could be passed, after he had devoted nearly three years to the relief of the disease, during fifteen months of which, the armed bougie had been unremittingly used.

The contractile power of the urethra, when

\* Hunter's Treatise on the Venereal, p. 114.

in a healthy state, is a gentle and uniform action of its fibres; when too frequently repeated or irregular from any cause, the action becomes spasmodic, and produces the disease in question.

The causes of contractions of the urethra, have been subjects of general discussion. In certain constitutions we find a greater disposition to the formation of strictures than in others; where this happens, it is easy to conceive that occasional attacks of spasm, arising from any source, may produce the disease. The most commonly imputed cause was, at one time, neglected or mismanaged gonorrhœa. Mr. Hunter, however has taught us that gonorrhœa is no more instrumental in producing strictures, than inflammation from any other cause, and that the seat of gonorrhœa and of stricture is rarely found the same. The formation of strictures has also been attributed to astringent injections used in the cure of gonorrhœa. Mr. Home seems so far to admit this



opinion, that he has entirely given up this mode of treating gonorrhœa, rather than incur a risk, however small it may be, of producing so distressing a complaint. As Mr. Home has since repeated the same in his notes on Mr. Hunter's "Treatise on the Venereal Disease," it is impossible not to express some surprize that he has given no information of his improved method of treating gonorrhœa, whatever it may be. His objections to the injection neither accord with Mr. Hunter, nor with the general practice of this day, nor even with his own subsequent observations concerning the natives of India, three-fourths of whom, of any rank, we are informed, are troubled with strictures, attributed to the effects of gonorrhœa, for which no local applications are used. Sir George Baker writes with a decision, which can only be accounted for by reflecting, that his branch of the profession afforded him fewer opportunities of seeing the whole progress of such diseases.

Various other causes have been assigned, as the gravel and stone. They have also been known to arise from piles, and in some cases from the temporary irritation of the parts, following the application of a blister. In short, whatever irritates those parts, will, in constitutions predisposed, prove an exciting cause.

Obstructions arise sometimes from tumors in the cellular substance that surrounds the urethra, and also from an enlargement or fulness of the corpus spongiosum urethræ. In some, this affection extends a considerable length; in others, it is confined to a single spot: some times it attacks different parts, leaving the intermediate spaces perfectly sound. An enlargement of the prostate gland, is perhaps the most irremediable, and distressing impediment, to the free exit of urine.

Strictures vary in their form and structure; those most commonly met with, are small ridges projecting into the canal, and forming

a half circle; sometimes they are continued and form a circular band, not more in breadth, than if the part had been surrounded with a piece of pack-thread. Some are contracted for above an inch in length, which Mr. Home accounts for, by supposing two strictures formed within an inch of each other, the space between them becoming narrower than the rest of the canal.\* This may happen, but I have seen a thickening and contraction of the urethra to this extent. Sometimes two or more strictures are on the same side, the other being perfectly smooth. More frequently there is a gradual contraction of the urethra to and from the stricture, so as to form a cone in the anterior and posterior part of it. Mr. Cooper, in “First Lines of the Practice of Surgery,” describes the shape as resembling two long cones, with their points in contact. He adds, “I am perfectly convinced that this is the case which frequently baffles the operation

\* Home, p. 22.

of caustic, and which receives most benefit from the employment of the common bougie.”\*

When strictures have been of very long standing, the whole urethra becomes contracted, and very often the orifice itself, in such a degree, as to admit only the smallest size bougie. There have been instances of part of the urethra being obliterated; for these there is no relief but in an operation.

The old notions of caruncles, callosities, and spongy excrescences, are now laid aside. But formerly, when all obstructions of the urethra were attributed to these causes, it was not uncommon to make an opening into the passage to look for them:—“ Quelques uns ont ouvert l'uretre sur la sonde canelée pour découvrir les caroncles ou carnosités, et de les détruire ou les consommer avec des remedes convenables.”† Mr. Hunter, who opened

\* First Lines, p. 423.

Cours de Chirurg. par M. Elie Col de Vilars.

more urethræ after death, where there were obstructions, than any of those authors who have written on the subject, was of opinion, that they wrote from imagination only.\* Mr. Benjamin Bell, however, informs us, he has *often observed* warty excrescences within half an inch of the extremity of the urethra, similar to those frequently found on the glans penis.†

The first approaches of stricture are generally so obscure, that they frequently exist without any evident symptom that should lead the patient to a knowledge of his disease. The first circumstance that attracts notice, is most commonly a slight diminution of the stream of urine; but if this is unaccompanied with pain, it is very seldom attended to. In this state the complaint may remain, till some irregularity of living, or accidental exposure to wet, and cold, produces an aggravation of the symptoms.

\* Hunter's Treatise on the Venereal, p. 111.

† Bell's System of Surgery, vol. II. p. 191.

When this is the first intimation a patient has that he requires surgical assistance, he may consider himself fortunate, if the affair terminates favourably.

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Having given this short view of the disease, I shall next consider the different means that have been resorted to for its cure, since Mr. Hunter revived the use of the caustic, and at the same time gave the world a more rational account of the nature of strictures. In doing this, I shall have occasion to dwell, chiefly, on the works of Mr. Home, to whose experience and rank, I most willingly pay every deference; and on Mr. Whately's improved practice. With all due respect to the character of these gentlemen, I shall take the liberty of making such remarks on their practice, as the documents given to the public in their treatises on this subject, may warrant.



The use of caustic in the cure of strictures, was certainly familiar to the old practitioners, but renounced (to use Mr. Sharp's words) "from the difficulty and almost impossibility of properly directing the instrument." Under the auspices, however, of the late Mr. John Hunter, this practice was revived; but in a very limited degree, and only in cases of extreme urgency. In the year 1752, he first applied to the end of a bougie some salve, and dipped it into red precipitate. This, as might be expected, brought on inflammation. To prevent this, he afterwards passed it through a cannula; not succeeding in getting through the stricture, he was induced to try the caustic, but with a caution characteristic of all his experiments on the human body. A similar method has been proposed by Mr. Cartwright, substituting the flexible gum cannula for the silver. This appears the only safe mode of applying caustic, excepting Mr. Whately's first improvement of securing a small portion of powdered lunar caustic at the end of a

bougie, by means of glue. That it was sometimes accompanied with success, there can be no doubt; yet, notwithstanding the favourable result of some cases, it has been doubted whether Mr. Hunter's good opinion of the practice kept pace with his experience.

The difficulties attending the introduction of the caustic into a passage, so peculiarly constructed, could not escape Mr. Hunter; he did not therefore venture to revive the old practice without suitable cautions. He first adopted the use of a silver cannula, suggested by Wiseman; but, besides that its unyielding materials were ill adapted to the flexible canal of the urethra, he found the middle of the stricture, the part intended to be destroyed, was frequently left untouched, only the angle, between the stricture and the sound part of the urethra, being exposed to the caustic. To meet these difficulties, Mr. Hunter introduced the armed bougie, the mode of applying which, is thus described by Mr. Home. "Take a bougie, of

a size that can readily be passed down to the stricture, and insert a small piece of lunar caustic, but surrounding it every where laterally by the substance of the bougie." This Mr. Home considers a very valuable instrument, on account of the facility and safety, with which it conveys the caustic to the stricture; and, indeed, he adds, "the *quickness* with which it passes, prevents any injury to the membrane, where it is accidentally brought to oppose it!"\*

There are, however, objections made to this instrument of those who think, that the facility with which a bougie passes, depends upon the roundness of its point, and the smoothness of its surface. Some have even gone so far, as to think it the worst instrument for the purpose, that could have been devised. This is the opinion of Mr. Whately, a great advocate for the caustic, whose work shall be further noticed hereafter. His observations

\* Home, first edit. vol. I. p. 126.

are strong and pointed. “ For my own part,” he says, “ I think that a worse mode of applying lunar caustic to a stricture, in the curved part of the urethra, could not have been invented; every one who has had much practice in passing a bougie into the urethra, knows, that unless *its point be round*, and the whole bougie smooth, it passes along this canal with great difficulty, and not without giving pain.\* As, therefore, the extremity of a bougie, thus prepared, cannot be made round, I consider it an instrument very unfit for the purpose; to say nothing of the caustic stone, dropping from the bougie while in the urethra.”

The bougie thus armed, according to Mr. Home's method, is applied to the stricture every other day, where the circumstances of the case, and the feelings of the patient admit. In very obstinate cases, it has been

\* Whately, second edit. p. 103.

applied every day. The first effect produced by it is thus described: "As soon as the caustic begins to act, the surgeon who makes the application is made sensible of it by the smaller arteries of the parts beating with unusual violence, which is very distinctly felt by the finger and thumb that grasp the penis."\* It needs no remark, that the surgeon is not the only party, under these circumstances, made sensible of its action.

The pain this operation produces, differs in almost every patient, both in degree and duration. In some it goes off in a few minutes, in others it remains many hours, and even the whole day. In several instances I have known it to produce diarrhœa; and in one person where this happened, it was five weeks before I could venture to proceed with the use of the bougie. A paroxysm of fever, or an ague fit, as it is termed, is a very fre-

\* Home, second edit. p. 166.

quent occurrence; and I have often been questioned, whether “the caustic was strong enough,” where it failed to produce shivering. Some have been so determined to be pleased with what was to make them well, that they have expressed the utmost disappointment when this did not take place. Nay, we find on one old gentleman, of seventy-six, the caustic produced “rather a warm and pleasant sensation.”\* *De gustibus non est disputandum!* Others, who were not so fascinated, have rather found a similiarity of situation, with that tormented being, whom Milton introduces saying—

“ My tormentors, arm’d with deadly stings,  
 “ Mangle my apprehensive tenderest parts;  
 “ Exasperate, exulcerate and raise  
 “ Dire inflammation, which no cooling herb  
 “ Nor medicinal liquor can assuage,

When caustic is employed with the intention of destroying a stricture, it can only accomplish that end, by inducing slough on

\* Home, second edit. p. 401.



the surface of the membrane, or by producing ulceration of the part; the extent of which must depend on a variety of circumstances. It has been said, that the twelfth part of a grain of lunar caustic, produces a *slough* the size of a seven shilling piece,\* and the following experiment is recorded by Mr. C. Bell. “ I kept the armed bougie, as it is termed, one minute introduced into the sheath, or prépuce, of a ram; on killing the animal on the fourth day, I found a deep slough, of double the diameter of the caustic employed, almost detached, and leaving a deep ulcer.”† In another place we read that, “ in one application of the lunar caustic, to a stricture, an impression to the depth of an eighth of an inch seemed to have been made. One application more would have admitted the largest bougie into the bladder.”‡ Mr. Carlisle is of opinion, that this substance

\* Whately, first edit. p. 25.

† Letters on the Urethra, p. 81.

‡ Ibid. p. 32.

seldom produces an eschar in the urethra; but he adds, "When, however, the caustic has the effect of producing a slough, I fear it will be found to extend farther than the surface touched; and a large part of the urethra will mortify, so as to endanger the life of the patient. This calamity," he adds, "I understand, has happened more frequently than is consistent with the unlimited recommendation of such remedies."\* There are very few, I believe, who will not accord with this feeling; nor does the following circumstance, detailed by Mr. Home, tend to lessen it. "There is," says Mr. H. "a substance which in some cases comes away after the application of the caustic, either the same day, or the day following; it is dark coloured on the outside, and of a light colour within; is tubular, and of different sizes. In general, the portions are too small to afford any information respecting it; but in one instance, I procured a portion

\* Med. and Phys. Journal. vol. III. p. 290.

an inch long, and have preserved it in spirits. It is evidently the cuticular lining of the urethra. There is sometimes a succession of these cuticles brought away."\* I shall not dispute whether this succession of cuticles, as Mr. Home chuses to call them, were really such, or exudations of coagulated lymph thrown out by high inflammation, like the membrane of the trachea, which forms the croop. In either case the patient's feelings must, I conceive, be equally unenviable.

Such are among the most obvious inconveniences which may be always apprehended from the introduction of the lunar caustic; but we shall see that they are not the worst. Inflammation, abscess, stranguery, retention of urine, and hemorrhage, are by no means uncommon. Mr. Home mentions indeed only two cases in which a swelling in the perinæum followed the application of the caustic. It has

\* Home's Obs. second edit. p. 171.

been my lot to meet this circumstance several times; once in a case that nearly terminated fatally, and to which Mr. Home was a witness. The subject was a gentleman of respectability in the city, who applied to me in the autumn of 1800. He had a stricture near the bulb of the urethra, to which I used a full-sized armed bougie. Two days afterwards it was repeated. The next day he sent for me in consequence of a constant pain in the part where the caustic was applied. In the evening he had a rigor; the pain increased; a swelling began to appear in the perinæum, and his water came away with great difficulty in a very small stream; during the night he was so much worse, as to apply to his physician. In the course of the succeeding day he continued much in the same state; but on the following morning was so much worse, that I thought it prudent, in consultation, to propose farther surgical assistance. Mr. Home was sent for, and when he arrived, the swell-

ling in the perinæum had very considerably increased. Mr. H.'s opinion was so unfavourable, that he recommended an opening into the tumor, which was accordingly made, and a quantity of fœtid matter, mixed with urine escaped. This gave the patient some relief. Poultices and fomentations were applied, and in seven or eight days the patient was considered out of danger. The urine, however, came through the opening for some weeks; after which the sloughs came away, and the parts healed. The patient went to Bath, and, I believe, has since trusted entirely to the common bougie for the alleviation of his complaint. A similar case occurred to a medical friend of mine, after the third application of the lunar caustic. Inflammation came on, accompanied with excessive pain in the part, and rigors, a large abscess formed in the perinæum, and the greatest part of the scrotum sloughed away, leaving the testicles completely bare. Sometimes an abscess has

formed of less extent, and opened itself into the urethra, leaving a depending cavity, from which matter is constantly secreted. A case of this kind which I mentioned formerly, remains a distressing malady to this day.

That those who are afflicted with strictures, are liable to inflammation; from exposure to wet, and a variety of other causes, is well known; or, that this event may arise from mere inattention, or improper conduct on the part of the patient. Can we then doubt, that it may be produced by caustic application, even in the hands of the most skilful surgeon? It is no uncommon occurrence for the armed bougie to burn through the stricture, and some distance into the corpus cavernosum in a straight line. I am aware that Mr. Hunter has not only noticed such an event, but treated it as a matter of little consequence; “it does,” says he, “as much good as if had passed into the bladder:”



he adds, for “ I have known several cases, where the bougie appeared to have the same effect, as if it had passed on to the bladder.” \*

When Mr. Hunter published this opinion, he could have seen no instances of ill consequences arising from thus destroying a part of the corpus cavernosum. But can we scruple to refer many serious hæmorrhages to such an accident?

The circumstances attending a return of this complaint, after the cure by caustic, are always of an aggravated nature, and admit of very little relief. I have a man now under my care, who was relieved three years ago by the lunar caustic, on whom the smallest size bougie can only be passed, nor does the rigidity of the stricture seem in the least to yield. Mr. Whately has witnessed these effects in many of Mr. Home’s patients; one of which, as he states it, was truly distressing.

\* Hunter on the Venereal, p. 127.

Mr. Home had succeeded after fifty very painful applications of the caustic, in procuring a passage for his bougie into the bladder; “but in less than twelve months the stricture had again so increased, that it was with difficulty a fine bougie could be passed through it; and the patient was in extreme misery, from frequent and painful evacuations of urine.”\* Dr. Andrews mentions the case of a patient who had six strictures, which were removed by fifty-four applications of the caustic. In twelve months four of them returned, and were again destroyed by fifteen applications of the caustic. †

I have seen two cases of this kind lately, which terminated fatally. One in a gentleman about thirty years of age, who resided in Cambridgeshire, and whom I accidentally saw in September, 1809, while on professional business in the neighbourhood. The disease was of ten years standing. He was first under

\* Whately, p. 114.

† Andrews's Obs. p. 116.

the care of a surgeon in London, who used the armed bougie, and cured him. Three years afterwards the stricture returned, when he consulted the medical professors of the university. In 1808 he again came to town, and was attended by a surgeon of eminence, a public teacher, from whose judgment and skill, an intimacy of many years enables me to assert, that he must have received all the alleviation which the nature of the case would admit, and all the advantages a judicious application of caustic could produce. He had however a second time returned home, giving up every hope, and trusting to the daily use of a small catgut bougie, by the aid of which, with difficulty and much straining, he voided his urine. The first stricture was at about three inches, but the chief disease was at four inches and a half, with considerable thickening continuing to the perinæum. By using the warm bath, and fomentations, and occasionally a small quantity of mercurial ointment, the thickening of the perinæum became lessened,

and three months after he wrote to me, “that the irritation was less, and that he made water with comparative ease.”—These favourable appearances, however, were of short duration. Less than a fortnight after receiving this letter, I was suddenly called upon by a near relation of his, who requested me to visit him in the neighbourhood of Cambridge. Before my arrival he had had the advice and assist- of Mr. Okes, and Sir Busicke Harwood of the university. The urethra had given way near the bladder; the urine was diffused over the scrotum, extending up to the pubes—and in two days after he died.

The mischievous consequences arising from the application of an extra quantity of caustic is very forcibly illustrated by Mr. Whately, in some cases of stricture within a quarter of an inch of the external orifice of the urethra, and in which the progress could be accurately traced. “In one of these cases (says Mr. W.) I applied a larger quantity of lunar caustic,

than I have usually employed. This produced a considerable slough; part of which was very visible. The application of the caustic was followed by a discharge, attended with considerable inflammation, around the orifice of the urethra, and an uncommon tenderness and irritability in the strictured part. The stricture was at first enlarged by the caustic, but in a few days it began to contract again; and, in the course of a week, the contraction was so great, as not to admit a bougie of much more than half the size it received before the application of the caustic. I endeavoured to prevent the contraction from becoming permanent by passing a bougie daily, and afterwards by directing one of these instruments to be worn for a certain length of time every day; but such was the uncommon irritability of the part, that in the mean time the irritation and secretion were kept up, so as to prevent a perfect cicatrization, and the parts were not restored to their former quiet state, till nearly a month after this single

application of the caustic. When the irritation ceased, I expected that the stricture would return to the state in which I found it before the caustic was applied; but in this I was disappointed; it was much narrower, and would not admit so large a bougie as I had then passed.”\* After this the stricture was touched with kali purum, but without any amendment. The same consequences followed in another case, from an extra quantity of kali purum.

From the circumstances attending these experiments, we may easily conceive what effects a large piece of lunar caustic, when left in the urethra, might produce. We are told, however, that this is an accident of very little consequence. Dr. Andrews, says, “it is a fact of considerable importance to be known, that if the caustic should get loose, and be left in the urethra, it is not productive of

\* Whately, p. 115.



*inconvenience.*"\* It would have added greatly to the *importance* of the *fact*, if Dr. A. had been more minute in his statement.

It has been said, that the hemorrhage, which sometimes ensues after the application of caustic, is more alarming than dangerous. For the extent, however, to which it continues, I need only refer to the common experience of every surgeon who has used the caustic, and even to Mr. Home's treatise. In the perusal of which, we often meet with passages like the following---"the parts bled freely;"---"it continued for hours;"---"the quantity lost we supposed to be several pounds."† In one case it is observed, "the bleeding and pain continued several days." These are incidents not regarded as objections to the practice; nay, to view them with indifference, is considered by some, as a proof "of cool and steady conduct."‡ Much ought

\* Andrews's Obs. p. 125.

† Home, p. 325—164.

‡ Andrews's Obs. p. 102—109.

these gentlemen to applaud the *steady* and *cool* practice of Ambrose Parey in curing the callous stricture. He “excoriated and tore” them by a leaden catheter, with a rough button at the end like a round file. This was thrust up and down the urethra, as long as was necessary for the “breaking and tearing” the callous; and the “surgeon” was particularly recommended to let the parts thus torn, “bleed freely, so to ease the affected part.” \*

It is admitted, however, “that if it (hemorrhage) was, *in a great proportion of cases*, to terminate fatally, it would then be a strong objection to the practice; but this (in a great proportion of cases) we do not find by any means to be true.” This would, indeed, be a *very strong* argument against the practice; but if the instances are *fewer*, is the objection a *weak* one? They are surely more than enough to justify Mr. Whately, in complaining of the levity with which these objections

\* Ambrose Parey, Lib. 19. p. 744.

are treated, as well as expressing his astonishment, at the coolness with which a surgeon views a chamber-pot full of blood, and the ease with which he calls for another vessel.\*

The frequency of this occurrence might have been expected, from the structure of the corpus spongiosum, and the thinness of its partition from the mucous surface of the urethra. This reflexion was with me soon confirmed by the events already enumerated; and which determined me very early to trust to milder means. Though I have not to lament a fatal termination in any instance from this cause, yet I cannot easily forget much painful anxiety

\* I cannot help on this occasion reciting an instance of this coolness, which occurred in a family attended by a medical acquaintance of mine. A gentleman sent his footman in great haste after a surgeon, who had a few hours before been applying the lunar caustic pretty freely. He delivered a message to this effect—"Sir, my master desires his compliments to you, and begs you will come to his valet, who has filled a wash-hand basin full with blood since you left him." To which the following cool answer was returned, "Go back and tell your master, that by the time he has filled another, I may perhaps be with him!"

from the apprehension of it. In one case, after the eighth application of the caustic, on withdrawing the bougie I was instantly covered with blood, which came out, with a jet, nearly equal to the flow of urine. Whatever those accustomed to such accidents may think of it, I must confess myself greatly alarmed. As this happened in my own house, it was the more embarrassing: pressure and cold applications were used in vain; nor was it till after some hours that the patient could be carried home in a sedan chair. The bleeding continued, at intervals, for several days; and it was five months before my patient, who was foreman in a manufactory, recovered strength sufficient to resume his station. In another case, repeated hemorrhages had taken place, but had generally ceased after a few hours. One day, however, the blood continued to flow so copiously, that I was sent for, and Mr. Heaviside at the same time. Iced water was recommended, and pressure made on the part; by these means the bleeding was at length stopped.

The man remained in a very feeble state for a long time, nor did I think it prudent to use the armed bougie on him afterwards. Another case was a gentleman under my care, in the autumn of 1808. He came to town with a friend under the same circumstances, who was recommended to a surgeon of great and deserved reputation, but perhaps too partial to caustic. The invalids frequently compared notes, and I had the details of the "bleeding and pain," which sometimes caused a suspension of operations for many days. Were it necessary, I could enumerate many other instances, in which the hemorrhage equalled what is related of the preceding cases, but the fact is too notorious to require it. Of its importance every man can judge for himself. And, however far habit may teach a surgeon to regard these circumstances with indifference, he will not so easily succeed in making the patient, or his friends, believe, there is no danger, or that extreme debility is a matter of no consequence.

It has been the fate of Mr. Hunter, that whilst his discoveries have been universally admired, and his doctrines very generally admitted, his name has been made a passport for practices in direct opposition to his writings. Mr. Hunter states three cases only, in which he considers the application of caustic to be justifiable: \* “ First, where the stricture is so tight as not to admit the smallest bougie to pass. Secondly, where the orifice in the stricture is not in a line with the urethra. Thirdly, where the passage has been obliterated by disease, and the urine passed by fistulæ in perinæo. The first very rarely occurs,” says Mr. Hunter, “ for if the passage in the stricture, be in a line with the general canal, a small bougie will commonly pass, and although it may not readily do so upon every trial, it will be sufficient to make way for another bougie, and THAT IS ALL THAT IS WANTED.” Mr. Hunter was fully aware of

\* Hunter, p. 126.



the danger and uncertainty attending the second. I am informed by Dr. Adams, that he used to exhibit in his lectures, a preparation in which, by the use of a common bougie, a new passage had been made to a certain extent, between the bladder and rectum. Had this case, he remarked, been treated with caustic, the false passage would only have been lengthened. It is evident, indeed, Mr. Hunter considered the remedy in the two latter states of the urethra, as only a forlorn hope, when he says, that in cases of this sort, he has succeeded beyond his expectation. To the ordinary cases of stricture, the application of this violent remedy, must of course be more objectionable. We are told, that some trifling strictures have been removed by two applications of it, and some even by one. But to such cases as these, was it at all necessary? The impediment which usually constitutes a recent stricture, is the contraction of a slender piece of the inner membrane of the urethra,

only a few lines in thickness, which may be overcome by a slight mechanical force. That the armed bougie is not in the least adapted for removing an obstruction of any extent, must be equally obvious. It could only act upon the anterior part of the stricture, without a prospect of burning the whole extent of the contraction. “ Even could we imagine,” observes an ingenious author, “ that it had this power; our judgment and common sense would revolt at the doctrine of this being the proper plan to be pursued.” In all the other cases of obstruction, as tumors, enlargement of the corpus spongiosum, &c. it must be equally inefficacious and improper.\* To a gentleman, with whom I was well acquainted, it was applied upwards of fifty times, to a supposed stricture near the neck of the bladder. When he died, the obstruction was discovered to have arisen from an enlarged prostate gland. The caustic had eaten an inch into the sub-

\* First Lines of the Practice of Surgery, p. 429.

stance of the gland. Many instances of a similar kind might be enumerated, but it is not necessary, as they apply more to a want of professional discrimination, than to the point in discussion.

I shall now take leave of the armed bougie, fully and cordially agreeing in the opinion entertained by many others, that it is the most objectionable mode of applying caustic:—at the same time acknowledging the obligation we are under to Mr. Home, for the industry and talents with which, it must be universally admitted, he has elucidated a difficult and important point of surgery.

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In 1801, Mr. Whately's book, to which I have so frequently referred, made its appearance. In this he proposed to obviate every inconvenience, by securing a small quantity of powdered lunar caustic, at the end of a bougie,

by means of common glue, which, when sufficiently hardened, was covered with a thin coating of bees wax. A plan, similar to this, has been recommended by Mr. Sherwin. He advises powdered lunar caustic to be applied to the stricture, by means of a whalebone bougie, having a small depression at the point, in which the caustic is to be retained, by adhesive plaister, or any other viscous substance.

The advantages attending the bougie, prepared in this manner, are thus described by Mr. Whately.—“ In the first place,” says he, “ the bougie may be of any size; and may be readily passed into, or a little beyond, such strictures as are extremely narrow. Secondly, from the protection afforded by the wax coating, no part whatever of the caustic touches the sides of the urethra, in it’s passage to the stricture. Thirdly, a determinate quantity of caustic may be applied with certainty. Fourthly, the caustic cannot be separated from the bougie. Fifthly, the caustic may be made

to act on the whole surface of the stricture at each application. Sixthly, where there are more strictures than one, the caustic may be directed and confined in its action. Seventhly, fixing the caustic with glue has this additional recommendation; we can attach it with safety to the very extremity of the bougie, and thereby apply it with more certainty to an imperious stricture, than is practicable with the common armed bougie.\*

However, these seven reasons, so systematically arranged, are insufficient to support the improved practice, more than three years. For in the year 1804, a more efficacious, less painful and hazardous remedy, is proposed. This remedy is the kali purum, or pure potass, once called lapis infernalis; and still in common use for making the deepest slough. At first sight it appears strange, that the most ungovernable of the whole fraternity of caus-

\* Whately, first edit. p. 65.

tic substances, should turn out to be an “easy, mild, efficacious remedy.” The reader, perhaps, may be a little inclined to scepticism on this point, particularly if he should happen to recollect, that Mr. Home holds, and that Mr. Whately once held, nearly the same language concerning the lunar caustic. But we are informed, that the kali purum acts upon different principles. It is true, the lunar caustic takes off the cuticular lining of the urethra; not so the kali purum—that only *abrades*—and the degree of abrasion is, moreover, under the control of the operator, whose business seems to be, to affect a sort of chemical combination between the disease and the remedy. The mode of proceeding is as follows:—A bougie is chosen just large enough to enter the stricture with some degree of tightness; at the round end of which a small hole is to be made with a pin; into which a small portion of kali purum, less than half the size of the smallest pin’s head, is to be placed; the hole is then to be contracted by the fingers, and the re-



maining vacancy filled up with hog's lard. The operator having oiled it, is to pass it by a gentle motion to the anterior part of the stricture, where it is to be kept for a few seconds, until the caustic begins to dissolve. It is then to be pushed forward about one eighth of an inch, and there retained a second or two, and then carried forward through the stricture. By this means, the kali being diffused over every part of the strictured surface, produces a slimy substance, compounded probably of the kali, the abraded matter of the stricture, and the oil and lard used in the operation. In this manner, says Mr. Whately,\* the kali penetrates, and dissolves the hard and diseased surface of a stricture, with a facility, which no other remedy, that can be safely applied, will equally do. — The safety, however, of this remedy, can only consist in the smallness of the portion of the kali directed to be used; for it is hardly to be supposed, if employed

\* Whately, second edit. p. 57.

efficaciously as a caustic, that it should prove less injurious, or objectionable, than the lunar.

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Having offered these general remarks on the dangers and disadvantages of the application of caustic in these complaints, I shall now proceed to investigate the merits of, and objections to, the common bougie; first reminding the reader, that this is only a comparative view.

Mr. Hunter, with his usual candour, remarks, "The bougie, with its application, is perhaps one of the greatest improvements in surgery, which the last thirty or forty years have produced."\*—Daran was the first who improved and brought it to perfection. Till his time the treatment of strictures made little progress. The reputation he acquired, by what he called medicated bougies, is well

\* Hunter on the Venereal Disease, second edit. p. 116.

known; and however absurd his reasoning on the disease and remedy may be, yet to his success it must be admitted, we owe the general adoption of the common bougie.

The principal objections now made to a practice, introduced by Mr. Hunter, with so well merited an eulogium, are, first, that the cure is not so permanent as that made by caustic. Secondly, that the irritable state of the stricture is kept up and even increased by it.—With respect to the first and most formidable objection, it would certainly be a presumptive argument against the use of the bougie, if it failed oftener in this respect, than any other remedy; but this is at least doubtful, and we know that the consequence of a return, after the use of caustic, is a stricture of a more permanent and aggravated nature.—But admitting, that it did return oftener, it would then remain to be considered, whether it would not be better to submit to the return of a complaint, which could be

relieved by the milder means, than secure the chance only of a longer respite by so painful, and sometimes, so dangerous a remedy? In many instances we too well know, that the remedy is more injurious than the disease, and the patient is advised to submit to an evil, the inconvenience of which is ascertained, rather than risk the danger of loading himself with greater and uncertain ills. It is a melancholy, but an undeniable fact, that where the disease has existed a long time, no person is safe from a return, whatever methods may have been resorted to in his cure. Mr. Hunter, who well knew the value of the caustic, tells us, “as strictures are diseases that commonly recur, no man who has ever had a stricture, and is cured of it, should rely on the cure as lasting, but should always be prepared for a return.”\* This opinion and experience of Mr. Hunter’s, like many others from the same source, does not seem to be shaken by any subsequent discoveries.

\* Hunter, p. 124.

In answer to the second objection against the bougie, that the irritable state of a stricture is kept up or increased, and that swelled testicle is sometimes produced ; may we not ask, whether the same or greater inconveniences would not have happened from the armed bougie? It should be recollected, the mechanical part of the instrument is the same in both instances ; the only difference between them is, that one has the addition of a stimulating substance attached to it, which does not alter the shape or texture of the bougie. May we not rather attribute these inconveniences, when they do occur, to the injudicious manner in which the bougie was introduced. How often do we see surgeons attempt to force a full sized bougie down the urethra, before they know whether the smallest can pass. Nor is this to be wondered at, when it is notorious, that the same want of caution is often shewn in examinations for the stone, and the iron sound is passed into the bladder without any



previous investigation of the state of the urethra.

Supposing, however, these derangements do occasionally occur, what are they in the balance against the mischiefs, that are admitted to arise from caustic? With respect to the irritation and spasm sometimes met with in strictures, I have seen Mr. Howard's observations verified in many cases, where the symptoms have been greatly relieved by the bougie remaining in the anterior part of the passage, for a few hours.

The following is that Gentleman's account of the SPASM which occasionally takes place. "This disposition to contraction," says he, "originates from the stricture itself, and thence extends gradually to the bladder and contiguous parts, and anteriorly, in a less degree, to the urethra. To overcome or moderate this propensity in the first instance, there is a necessity for the means of producing



anodyne relaxation, which need not be repeated. The second remedy for counteracting this obstacle, is to dilate the passage with a bougie ; the simple introduction of which will give the parts on this side the stricture, the stricture itself, and the neck of the bladder beyond it, a disposition to open. And it is a singular fact, that it will frequently do this, although it be impossible to pass the stricture ; and when the irritability of the urethra at that part is so great, that it cannot bear the contact of the extremity of the bougie. Wearing a few inches of this application in the anterior part of the passage only, for a few hours every day, will sometimes mitigate the symptoms, and diminish both the difficulty and pain of discharging the water, more particularly when the urethra is very tender, or much contracted.” \*

It has been the practice with some surgeons

\* Howard's Observations on the Venereal Disease, vol. III. p. 158.

to force a full sized bougie through a stricture, that only allowed a small one to pass. With this view metallic bougies are sometimes used. The late Mr. Cruickshank was in the habit of employing a large silver probe for this purpose. By this mode of proceeding, the stricture must either be torn, or violently stretched, so as to destroy its contractile power, independent of the inflammation that would probably ensue. I have known the catheter used with considerable violence to break down an obstruction, and repeated for several days. This had been practised on a patient whom I saw some time ago. The stricture certainly was broken through, and a full-sized bougie passed into the bladder; but the urethra was in such an irritable state, as to keep him in constant dread of making water for months afterwards. Such rough treatment as this, does not differ many degrees from the practice already objected to. How can we so soon forget that mild practice which was sanctioned by more than thirty years experience?

“ The bougie,” says Mr. Hunter, “ should be increased in size, according to the facility with which the stricture dilates, and the ease with which the patient bears the dilatation. If the parts are very firm, or very irritable, the increase of the size of the bougie should be slow, gradually stealing upon the parts, and allowing them to adapt their structure to the increased size.” \* This is well expressed by a French writer, who describes this gradual stealing upon the parts, as effected by “ little and little.” “ La meilleure méthode est d’introduire dans la verge des bougies qui par leur volume et leur fermeté puissent écarter peu à peu les parois de l’uretre, et en même tems ramollir et relâcher ses fibres.” †

The time a bougie should remain in the passage, must be determined by the feelings of the patient. But the use of it should not be laid aside for some months after it passes

\* Hunter, p. 121.

† Cours de Chirurgie, vol. IV. p. 166.

with facility: as the same author remarks, “ quoiqu’on urine à plein canal, il ne faut pas laisser de continuer l’usage des bougies tous les jours pendant quelques heures, ensuite toutes les semaines, et enfin tous les mois.” \*

The good effects of frequently and gently stretching a constricted part, is not confined to the urethra. By way of analogy, it is worth remark, that the same relief is experienced in contractions of the œsophagus and rectum. A woman applied to me on account of an obstruction in her throat, producing a total inability to swallow any solid substance. Her father some years before had died of the same complaint. A probang was introduced, in order to ascertain in what part of the œsophagus the stricture was. When it arrived at the obstacle, the woman was very desirous it should be pushed through by force. Several

\* Cours de Chirurgie, vol. IV. p. 167.

attempts were, however, made in vain: at last the woman declared she felt the part give way, when she applied her hands to the probe, and forced it through. She was afterwards furnished with a proper bougie, by the daily and frequent use of which, in a few months she recovered perfectly. I have seen several cases, of a similar nature, considerably relieved by these means. Mr. Home records one case of a lady, nineteen years of age, who was perfectly cured by it. Cases of schirro-contracted rectum, as it is sometimes improperly called, are perpetually relieved in this way; nor do I recollect a single author who has the hardiness to propose caustic in this disease. Mr. Samuel Sharp, with many others of equal celebrity, was of opinion that the mere stretching a constricted part, was not only equal to procure an abatement of symptoms, but to effect a cure. Speaking of obstructions of the urethra, he observes, "It is very remarkable, in regard to many of these strictures, that the symptoms arising from

them shall be extenuated by acting against the stricture; that is to say, by introducing a bougie big enough to distend the urethra, the painfulness of the stricture shall cease, and the strangury shall abate, so that a man who is accustomed to make water every hour, shall, by wearing a bougie, retain it three or four hours.”\* But every advocate of the caustic practice, must pay deference to the opinion of Mr. Hunter, whose language almost in the passage in which he recommends the caustic, is as decided as it is cautious. “*If, says he, the case is such as to admit the end of a small bougie to pass, let it be ever so small, the cure is then in our power.*”†

The late Mr. John Howard, whose observations on the venereal disease, appeared after Mr. Hunter’s publication, strongly recommends the use of the bougie. His work is dedicated to Mr. Pott, to whom he had the

\* Critical Inquiry, p. 145.

† Hunter, p. 118.



good fortune to be confidential assistant for many years. And as the facts contained in the work, and reflections arising from them, occurred during that period, it is a fair inference, that this practice was approved by Mr. Pott.

Mr. Howard relates several cases of retention of urine arising from stricture, and relieved by the bougie, under the direction of Mr. Pott. In one case of a gentleman, fifty years of age, Sir Cæsar Hawkins, Mr. Adair, and Mr. Pott, were the consulting surgeons, when it was agreed, that the bougie should be used, after a preparation by the warm bath, &c. Mr. Howard continues the history as follows:—"Although the disposition to contraction in the urethra in this case was strong, yet the irritability of the parts was not great, and he bore the introduction so well, that I was soon enabled to pass the bougie night and morning. The seat of the disease was in the bulbous and membranous parts of the urethra.

In three weeks a very considerable progress towards the bladder was made, and in proportion to this progress, so his symptoms lessened. He had less mucus in his urine; the pain, irritation, and frequent desire to empty the bladder were greatly diminished, he slept better, and was evidently mended as to his general health. Three weeks after the first, a second consultation was held. I passed a bougie, and the gentlemen were all of opinion, as well as myself, that it had entered the bladder. There was, however, a circumstance still continuing, which was remarkable, namely, the disposition in the urethra to contract on the bougie. Upon this Sir Cæsar Hawkins observed, that the medicine the patient had been for some time taking, namely, the bark, would frequently have the effect of increasing this disposition; and he said further, there was every reason to suppose, from the rapidity of the cure, that notwithstanding the length of time the complaint had remained, the parts were not much diseased."

“ It was in the month of August, when Mr. Pott generally went out of town, that this gentleman, among other patients, was left under my care. I was not a little surprised to find that the symptoms, although greatly lessened, did not go off upon the bougie (as we all supposed) entering the bladder, but I soon found I had a further progress to make; and luckily, having neither an irritable patient, nor a diseased prostate in the way, the obstacle was overcome, and the bougie, at length, finally got into the bladder;—upon this, the symptoms soon ceased, the parts recovering their long lost action, and the patient his former health.” \*

In another case, the patient was relieved by the warm bath and opium, but refused any further assistance. “ Although,” says Mr. H. “ this gentleman knew he had a stricture, and that his life had been put to the hazard, yet

\* Howard on the Venereal Disease, vol. III. p. 162.

he would not submit to use *the only means* that could possibly serve effectually in future,  
—I MEAN THE BOUGIE.”\*

Mr. Howard afterwards published an appendix to his treatise, and in a clear and concise manner stated his opinions of the new practice; before the introduction of which, he had long been accustomed to cure, by far the greater number of strictures, without the use of caustic; nor does he see any reason for using it, when the disease may be relieved with certainty in the old way. But it may, he conceives, be adopted under certain modifications, when the other method has failed. Even then, however, the application should be confined to strictures in the anterior part of the urethra; and the cure finished by the bougie alone. This he contends for as a leading principle; adding, that “many thousands of persons have not only been relieved, so as to pass their

\* Howard on the Venereal Disease, vol. IV. p. 154.

lives comfortably, but cured by the old method of using bougies." \*

I shall not detain the reader by referring him to more authorities in favour of the simple bougie. They are almost as numerous as the writers on stricture, with the exception only of those few, who conceive they have improved upon, or been peculiarly successful in the application of the caustic. Among the latter, I cannot omit some further notice of Mr. Whately.

This gentleman we shall find, at one time, considered the common bougie as a much more efficacious, as well as safer instrument, than the caustic, in the manner proposed by Mr. Home. Whatever advantages may be derived from Mr. Whately's improvement, no one, I conceive, would be hardy enough to propose a caustic of any kind, if the common

\* Howard, Appendix, p. 427.

bougie may answer the purpose. In the first edition of that gentleman's work, is the following passage: — " Every one, acquainted with the use of bougies, knows their salutary effects in all recent strictures; nor are they less useful in a *considerable number* of those of longer standing; in many of which, only the smallest bougie can at first be passed. Even in those habits where the bougie irritates at first, and cannot be kept in the passage for any length of time together, it is surprising to observe what may be done, by persevering cautiously and judiciously in its use. And although the cure of strictures by bougies is not always certain, yet, in many instances, the complaint does not return for a number of years, although no other means be employed for its removal. I have dilated strictures of the worst kind, by the common bougie, where the patients have remained well for five, and even ten years." \*

\* Whately, first edit. p. 63



Most of Mr. W.'s cases confirm these observations, particularly the first; part of which I shall take the liberty of quoting.—“ A man, aged forty-six, had a severe gonorrhœa in the year 1770; for the cure of which he used no injections. The gleet (as he called it,) continued for two years, and then ceased. About twelve years afterwards, he perceived the first symptoms of a stricture in the urethra; which in the course of years increased so much, that it was with difficulty he could make water. At this time he applied to me. By an examination with a bougie, I found a stricture near the bulb; but so much contracted as not to suffer the finest bougie, I could procure, to go through it. However, I passed one as far as the strictured part, and retained it in that situation for some hours every day. At the end of a fortnight, the stricture dilated so much, as to admit a fine bougie to pass through. By persevering in this method, and gradually increasing the size of the bougie, the passage was in a few weeks brought nearly

to its natural width. The patient remained well about seven years. At the end of eight years he returned to me for the cure of his stricture; which was again so contracted, as not to suffer one of the finest bougies to pass through it; but by following the same method as before, for six days, a bougie went through, and soon afteswards I succeeded in producing a sufficient dilatation of the stricture. After this, he remained well about five years; but was under the necessity of again applying in the year 1797 for relief." Mr. W. goes on to relate, that the regular use of the bougie was interrupted by ill health, on account of which the patient went into St. Bartholomew's Hospital in February 1798. He was admitted under the care of Mr. Long, who would not give his consent to the use of the caustic. However during his stay there, the caustic bougie was persisted in for nearly seven months, and applied sixty-two different times, without any progress whatever in the dilatation or destruction of the stricture. In this situa-

tion he applied to Mr. W. a fourth time in August 1799. After a few days a small bougie passed the stricture, but it was found impossible to dilate it more than to admit a middle sized bougie. Mr. W. next tried the common caustic bougie, three or four times, without success. This failure gave rise to the experiment of passing into the stricture a small quantity of powdered lunar caustic on the point of a small bougie, made secure by a thin coating of glue. At that time, the last improvement of lapis infernalis had not occurred. However the powdered lunar caustic produced so much relief, that the man was enabled to follow his employment, which he had not done before for more than three years. \*

In this case, and a worse is seldom met with, the stricture was dilated by a common bougie four different times, in the course of seventeen years; and we may fairly conclude

\* Whately, first edit. p. 82.

by the history, that had the man taken the least pains and attended to the occasional introduction of the bougie, which, under such circumstances ought never to be neglected, he would have remained well from the time that he was first relieved.

One cannot help remarking, on this occasion, the apathy with which persons afflicted with this complaint too frequently view their own situation. The medical practitioner, alive to the horrors of suppression of urine, and other miseries, attendant on diseases of the urinary organs, often looks with astonishment on this indifference, when he is called to witness its fatal effects. To this indifference—to a want of proper personal prudence, principally among the poor, and in some instances, to a false delicacy among the wealthy, many valuable lives have been sacrificed. It has fallen to my lot to witness many unhappy instances of this kind; one of which, occurred to a person with whom I was well acquainted,

and whose fate was the cause of infinite regret to many of our mutual friends, as well as to myself.

Mr. B. upwards of fifty years of age, who had passed many years in a convivial circle in the city, was troubled in the latter part of his life, with great difficulty in voiding his urine. This infirmity was so distressing, that it could not be concealed from his intimate friends, and till within a few weeks of his death, he seemed almost the only person not aware of its importance. In the summer of 1795, he resorted to Margate with his family, in perfect health and spirits. He was on the water when a very heavy rain came on, which completely drenched his clothes. The next day he was seized with rigors; nevertheless, he went out for two or three days following, concluding the sensations he felt, arose from a slight cold. The difficulty of making water was considered only as a common occurrence, though there is reason to believe, that a com-

plete retention had taken place. His general illness required medical assistance; but no notice was taken of the urinary complaints, till twelve days had elapsed. At length a discoloration of the skin, about the pubes, penis, and scrotum, led to a discovery of his real state. My father was immediately sent for from London. On his arrival, he found all the parts above mentioned, in a state of sphacelus. The bladder had discharged its contents, which loaded the cellular membrane with urine, from whence it was dripping by numerous orifices. All pain had ceased; and in this most deplorable situation, he had strength to support life nearly a month.

The following circumstances occurred in a near relation of my own, a gentleman, about thirty years of age, whom I accidentally discovered to be in great distress from retention of urine. Finding him in violent pain, and enquiring the cause, he told me, "it was *only a strangury*," which of late years, always



troubled him after taking a little more wine than usual. On examination, two strictures were discovered, and the bladder was felt distinctly, above the pubes. It was with difficulty a small elastic-gum catheter was introduced, by which nearly three quarts of water were discharged. He had not voided more than a few drops of urine for four and twenty hours; and, though suffering extreme pain, was very far from supposing himself in any danger.

Many instances of this strange neglect, the issue of which has been less fortunate, have occurred to me within these few years. Among the rest I cannot easily forget a gentleman, many years a resident officer of his majesty's establishment at Hampton Court, whose sudden and premature death, at the early period of forty-nine years, happened under aggravated circumstances of distress. Shall we apply the harsh censure of Luther on this occasion, "*Ulciscitur sui contemptum,*" or the more

gentle reproof of Celsus, “ Quæ invitissimus quisque alteri ostendit.” \*

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From the complex nature of these diseases, it must surely be admitted by every unprejudiced mind, that even presuming the situation of a stricture to be precisely ascertained, each different form presents difficulties which, under every improvement, render the direction of the caustic a matter of great uncertainty. If so, the observations of Mr. Sharp remain in full force. “ The objections,” says he, “ to the use of caustics were the difficulty and almost impossibility of directing them, so as to eat through all the diseased parts of the urethra, without destroying the sound part; the impracticability of *preventing the urethra from contracting when it healed, as much, if not more than it was, at the time of employing*

\* De Obscenarum partium vitiis.

the escharotic: and lastly, the pain was so excruciating, and perhaps the application so poisonous, that immediate mortification of the scrotum, penis, and bladder, were sometimes well known to ensue: \* upon these accounts, the use of escharotics seems to have been entirely rejected." Mr. Bromfield was of the same opinion. " It is well known," he observes, " that *caustics* and *escharotics* are applied with advantage to parts within our reach; but the uncertainty of their being conveyed immediately to the part affected in the *urethra*, and the injury they must do sound parts, has occasioned their being exploded." † The French writers seem to entertain the same opinion, by the following passage in the *Cours de Chirurgie*—" Ces remèdes enflammoient, rongeoient et ulcéroient ce conduit—et bien loin de procurer du soulagement, après la cicatrice, le conduit de l'urine se trouvoit encore plus étroit." ‡

\* Critical Inquiry, p. 151.

† Bromfield's Chirurgical Observations, vol. ii. p. 297.

‡ Cours de Chirurgie, vol. iv. p. 165.

That strictures often return after a long treatment by caustic, almost every practitioner in this town must have frequently witnessed; and the surgeons in India, I believe, commonly find, that patients who have been sent to this country for cure, return on their hands, after a few years, much in the same state they left them. At least, such has been the opinion of those of whom I have had opportunities of enquiring. A gentleman on the Madras medical establishment, in a letter written in April last, informs me, that caustic is generally resorted to there; though the frequent recurrence of the complaint so debilitates the constitution, that a voyage to Europe often becomes absolutely necessary. “ I wish I could add,” he continues, “ that the means resorted to by the practitioners there, were equally effectual in eradicating the local complaints, as the air and climate of our native country always proves, in renovating and restoring the general health. But this is not the case; and I do not know a solitary instance of a person returned from

Europe cured, as he thought, who was not soon convinced that the relief he had experienced was only temporary." There are few, I believe, who will not think these authorities sufficient, if not for abandoning escharotics altogether, at least for using much caution in their application, even with all the improvements lately suggested.

That there are circumstances in which the application of the caustic may be attempted as an experiment, and under certain modifications, I am ready to admit; but I believe those cases to be very few, and the prospect of success, as far as regards the cure of stricture, to be very precarious. Here, as in many other situations, where there is doubt as to the probability of success, and where the mode of cure proposed, is both painful and hazardous, the patient *only* ought to decide. It is for him to make his election, whether he will go through the new rough road, instead of the smooth old one. Every young practitioner

will do wisely to act on this principle; for one unsuccessful operation, may be more painful to his feelings, and do more injury to his fame and fortune, than an hundred successful cases can repair.

Thus far I have endeavoured to shew, that the use of the common bougie should be considered as a leading principle in the cure of every description of stricture in the urethra. “ It requires patience, coolness, and perseverance. If the surgeon can make any progress, though slowly, he must be contented. An observation used by Mr. Whately on another occasion, seems peculiarly applicable to this. “ If, therefore, by this easy, safe, and mild method of treatment, relief can occasionally be given to the close of life, without the patient’s suffering much inconvenience or pain from the disorder, it is certainly more advisable to pursue this plan of treatment, than to make use of a remedy, which has in some instances produced even fatal consequences.” \*

\* Whately’s Observations, first edit. p. 61.



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IT would be needless to trouble the reader with a long detail of cases. The following are selected from a great many, and are given in confirmation of the foregoing observations, with a view of shewing how frequently strictures exist, without the knowledge or suspicion of the patient.

### CASE I.

A gentleman, aged thirty-five, who had been married upwards of nine years, consulted me for a discharge from the urethra, which had troubled him in a slight degree for ten months, but had increased so much as to alarm him, and led him to believe it was the remains of an old venereal complaint. He said, he made water very well, and in a full stream; but on desiring him to make water in my presence, it appeared

he had deceived himself in this particular. He then recollected, that he had not made water in a fuller stream for a great length of time, but that he had not thought it of any consequence. On examination by the bougie, a stricture was found at five inches and a half, and another at six and a half. They were dilated in nine weeks, and very shortly after the discharge entirely disappeared.

## CASE II.

A gentleman, on his arrival from India, consulted me for a gleet. He permitted me to examine the urethra; the bougie went as far as six inches, with great ease, when it stopped. A smaller sized bougie was introduced and passed through the stricture. This was repeated daily for a few weeks, when he left town, the urethra being very nearly restored to its natural size. He was not aware of any difficulty in voiding his urine; but when the stricture was dilated, he said, it explained to

him a sensation he did not before understand, which was always left in that spot, for some minutes after he had made water.

### CASE III.

G. P. about thirty-five years of age, requested me to examine whether he had strictures. He said he could make water very well, but that he was living with a friend who was suffering dreadfully; that his mind was so affected by it, that he could not rest satisfied till he was sure he was free from any symptom of the complaint, particularly as his course of life, for years, had been such as to warrant the expectation of it. I passed a full sized bougie as far as the bulb of the urethra, but could not get it further; it was therefore withdrawn, and I could not then persuade him to let me try a smaller size. His distress was very great, though he confessed he did not feel the least pain on its introduction, yet the sensation at

taking it out, he said, was horrible.\* In a few days, he consented to another trial; a moderate sized bougie passed through without any pain, and in seven weeks, a full sized bougie passed the stricture.

#### CASE IV.

Captain —— had been troubled with a discharge from the urethra for many months. A stricture was found at five inches and a half, and another at six inches; the latter was extremely irritable, as was the whole of the canal. I applied the mercurial ointment, lowered with some spermaceti ointment, which produced a slight sensation of warmth; in a few days this was not felt, and a moderate sized bougie passed through the stricture, without any pain. The bougie was gradually increased in size, and at the end of two

\* It is not uncommon for persons not to complain when a bougie is introduced, yet faint immediately it is taken out.

months, a full sized bougie could be passed into the bladder.

### CASE V.

A gentleman, aged thirty-four, wrote to me from the country on account of a discharge he had from the urethra; but before my answer reached him, it had stopped. A twelvemonth after he called on me, having a running, which he suspected to be a virulent gonorrhœa. On enquiry, it appeared, that he had never been quite free from a trifling gleet. As there was no inflammation, a bougie was introduced, which stopped at five inches and a half. By a little perseverance it passed on. The next day the discharge was rather increased, which confirmed the patient's suspicion that it was venereal. At my solicitation he was induced to wait two days, when it was so far lessened, as to clear up his doubts. The bougie was then used every day, and he recovered perfectly without any unpleasant symptoms.

## CASE VI.

A respectable tradesman, in Westminster, applied to me for the cure of a gleet; for which he had been using a variety of injections, and taking bark to strengthen his bladder, which he said he was advised to do, as it was so weak he could not hold his water. On examination, the glans penis appeared highly inflamed; the orifice of the urethra having a pouting appearance; I therefore postponed any further investigation of his complaints, until the inflammatory symptoms were abated. In a few days the parts were in a state to admit of an examination with a bougie. I found a stricture at five inches, and another at five and a half. In the course of three weeks they were sufficiently dilated to admit a full sized bougie, which passed on to another stricture at six inches and a half. Through this I could only pass a small sized bougie, which gave so much pain, that I was obliged immediately to



withdraw it. Four days afterwards I introduced a small bougie a second time, which did not give him so much pain as the former application, and remained in ten minutes. On the third day it was repeated, and afterwards every second day for nearly a fortnight. At this time he could retain his water, and was in other respects, in a comfortable state; but having some business to transact at Portsmouth, he left town, promising to pass the bougie himself regularly. In about three weeks he returned, and his complaints were not worse. A moderate sized bougie passed very readily on to the bladder, and the discharge had nearly stopped. He afterwards submitted to the regular use of the bougie, and continued it until he was completely relieved.

## CASE VII.

A gentleman, who was to be married in a few days, before his intended marriage applied to me on account of a trifling discharge.

He gave me leave to pass a bougie, which stopped at a stricture about six inches, which was completely removed by the use of the bougie. He had no difficulty in making water, nor any symptom, indicative of his complaint, excepting the discharge.

### CASE VIII.

A gentleman, about forty years of age, applied to me for the cure of a hydrocele. A few days after the operation, for the radical cure by injection, he told me he was sure the inflammation had produced something in the urethra, for he felt constant pain in the passage below the scrotum. I questioned him as to the probability of stricture; but he said it was impossible, as his water came in a full stream, though he thought it troubled him oftener than usual. On examination, I found a stricture near the bulb of the urethra, through which a moderate sized bougie would only pass. By using the bougie a few weeks, the

urethra was dilated sufficiently to admit one of the largest size.

## CASE IX.

A gentleman, about twenty years of age, applied to me for the cure of a gleet from the urethra, which had been on him upwards of a year and a half. He said, that he had lately lost his flesh, had no appetite, that he was frequently troubled with shiverings and sickness, and was apprehensive, if something was not speedily done for his complaints, he should fall into a decline. He had had a violent gonorrhœa a year and a half before he applied to me, for which he had used injections, but the running had never completely ceased from that time. I passed a full sized bougie as far as four inches when it met with resistance, and gave him pain, which left him instantly on the bougie being taken out. The next day a smaller sized bougie passed through the stricture as far as five inches and a half.

where it stopped; but after remaining a few minutes, it could be passed on to the bladder. Two days afterwards the operation was repeated, but the bougie, as on the first attempt, did not pass the second stricture, till after it had remained in the urethra nearly a quarter of an hour. This state of the parts continued for six days, after which a bougie was passed through with tolerable ease.

### CASE X.

J. H. a married man, aged thirty, applied to me for the cure of a gleet. On enquiry, I found he made water eight or ten times a day, and that he could not resist the irritation when it occurred. Distressed as he was at this interruption of his employment, (a marker at a billiard table), he was not in the least aware of the cause. On examination, a stricture was found at three inches and a half, another at five, and another at six and a half. The first was easily dilated; the others were much re-

lieved in a few weeks, by the use of the bougie, and the occasional application of the unguent. hydrar. He continues to use the bougie, and remains without any difficulty in retaining his urine.

### CASE XI.

A young gentleman, in one of the public offices, called on me with a purulent discharge from the urethra, which he said came on suddenly, and as far as he knew, without any cause. He had contracted a gonorrhœa a few months before, for which he said he had used some strong injections, given him by a friend, that cured the complaint in a few days. On questioning him as to his water, he asserted it came very freely. As I had suspicions of his having a stricture, I requested he would permit me to pass a bougie, which, after much persuasion, he consented to, and a stricture was found at five inches and a half. As there was some inflammation, the operation with

the bougie was deferred for a few days, till the discharge had nearly ceased. He had the bougie passed regularly, and in the course of three weeks, the urethra was dilated to its natural size.

## CASE XII.

A gentleman, on whom I had performed the operation for the radical cure for the hydrocele, complained a few days after that the inflammation had produced something in the urethra, accompanied with pain in the passage below the scrotum. I questioned him as to the probability of stricture, but he said his water came in a full stream, though he thought it troubled him oftener than it used to do. On examining him with a bougie, I found a stricture in the perinæum. A moderate sized bougie was passed. By using the same about two months, the urethra was dilated sufficiently to admit one of the largest size.



## CASE XIII.

Suppression of urine, arising from stricture in the urethra, relieved by catgut bougie.

On Thursday, July 30, 1807, I was called up by a professional gentleman in the neighbourhood, to visit a naval officer at Hatchett's Hotel, with a retention of urine. I found him in extreme pain, not having made water for fourteen hours. His bladder was very tense, and he had constant straining.

On attempting to pass a moderate sized bougie, an obstruction was found about six inches from the orifice of the urethra; and a smaller bougie was tried without success. I then took a fine catgut bougie, passed it with great caution as far as the stricture, and by waiting a few minutes, was fortunate enough to get it through. Having accomplished this, and directed him to take sixty drops of lauda-

num, and to be kept as quiet as possible, I left him nearly two hours. On my return he was on his feet out of bed, with the urine trickling in a very small stream by the sides of the bougie; in this way he stood nearly an hour, during which time he voided three pints of urine. The catgut bougie being perfectly soft was taken out, a small sized common bougie introduced, and the patient put into bed.

Four hours afterwards I saw him again; he had slept and was considerably relieved. As he complained of an irritation to make water, the bougie was withdrawn, and he voided, with some difficulty, in a very small stream, about three-quarters of a pint. The bougie was again introduced, and passed with greater ease than it had done before. He was now perfectly composed in his mind, and shortly after being put to bed, fell asleep, and continued so six or seven hours. When he awoke the bougie was taken out, and he passed about half a pint of urine, with much less

straining, but still in a very small stream. The opiate was repeated at night, but in a less quantity. He passed a good night, and the next day was considerably better. From this time he continued to mend; the bougie was passed daily and persisted in, till the passage was sufficiently dilated to admit one of nearly a full size. It is now only used occasionally.

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These are a few among the cases which might be offered in favour of the gentle mode of treating these complaints. It is hoped they will be considered sufficient to illustrate the question. Since the first edition was published, the number of cases which have occurred in the author's practice, as well as the information he has drawn from other sources, have confirmed him in his former opinions.

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